SOLE CONSTRUCTION FOR ENERGY STORAGE AND REBOUND

Abstract of the Disclosure

A sole construction for supporting at least a portion of a human foot and for providing energy storage and return is provided. The sole construction includes a generally horizontal layer of stretchable material, at least one chamber positioned adjacent a first side of the layer, and at least one actuator positioned adjacent a second side of the layer vertically aligned with a corresponding chamber. Each actuator has a footprint size smaller than that of the corresponding chamber, and is sized and arranged to provide individual support to the bones of the human foot. The support structure when compressed causes the actuator to push against the layer and move the layer at least partially into the corresponding chamber. In one embodiment, the horizontal layer of stretchable material is at least partially enclosed by a wall the prevents horizontal displacement of the layer during compression.

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